

**REMARKS**

Claims 1-7, 9-17, 19-20, 22-24 and 26-35 are pending in this application. By this Amendment, claims 1, 9, 11, 19-20 and 29 are amended, new claim 35 is added and claim 8 is canceled without prejudice or disclaimer. Various amendments are made to the claims for clarity and are unrelated to issues of patentability.

Applicants gratefully acknowledge the Office Action's indication that claims 31-34 are allowed and that claims 2-4, 6-7, 12-14, 17, 22-24 and 28 contain allowable subject matter. However, as set forth below, all claims are believed to contain allowable subject matter.

The Office Action rejects claims 1, 5, 8, 11, 15, 16, 20, 26 and 27 under 35 U.S.C. §102(b) over U.S. Patent 5,373,257 to Shimoda. The Office Action also rejects claims 9, 10, 19, 29 and 30 under 35 U.S.C. §102(b) over U.S. Patent 5,648,735 to Bowers et al. (hereafter Bowers). The rejections are respectfully traversed with respect to the pending claims.

Independent claim 1 recites a first port, a first device and a waveform capture device. Independent claim 1 also recites that the first device, coupled to the first port, to modify a channel response of the first signal received from the first channel, the first device including a filtering device having a plurality of stages, each stage including one of a plurality of voltage-to-current converters and one of a plurality of current multipliers, the filtering device to provide a separate output for each of the stages. Independent claim 1 also recites the waveform capture device, coupled to the first device, to capture a waveform of a signal modified by the first device.

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Shimoda does not teach or suggest all the features of independent claim 1. More specifically, when discussing features relating to the claimed plurality of stages, the Office Action cites Shimoda's col. 2, lines 34-36 and col. 5, lines 49-57. However, these cited sections relate to a first voltage-current converter 14, a second voltage-current converter 15, a capacitor 16 and a resistor 17. In other words, the Office Action appears to state that each one of elements 14, 15, 16 and 17 corresponds to a different stage. In order to avoid any ambiguity, independent claim 1 recites a filtering device having a plurality of stages, each stage including one of a plurality of voltage-to-current converters and one of a plurality of current multipliers, and the filtering device to provide a separate output for each of the stages. Shimoda does not teach or suggest these features as Shimoda merely relates to a first voltage-current converter 14 and a second voltage-current converter.

Further, applicants respectfully submit that the Office Action's citation to Shimoda's col. 2, lines 34-36 does not correspond to each stage including one of a plurality of voltage-to-current converters and one of a plurality of current multipliers. Additionally, Shimoda does not teach or suggest the claimed waveform capture device to capture a waveform of a signal modified by the first device. For at least the reasons set forth above, Shimoda does not teach or suggest all the features of independent claim 1. Thus, independent claim 1 defines patentable subject matter.

Independent claim 11 recites a processing circuit to receive a signal across a channel and perform signal processing on the signal, the processing circuit including a filtering circuit having

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a plurality of stages to provide a plurality of outputs, each of the stages to provide a separate response as an output of a filtering operation, the processing circuit to output a processed signal based on the separate responses. Independent claim 11 also recites a waveform capturing device to capture a waveform of the signal based on the processed signal. For at least similar reasons as set forth above, Shimoda does not teach or suggest all these features of independent claim 11. More specifically, Shimoda does not teach or suggest a filtering circuit having a plurality of stages to provide a plurality of outputs and each of the stages to provide a separate response as an output of the filtering operation. Accordingly, independent claim 11 defines patentable subject matter.

Independent claim 20 recites modifying a channel response of the received signal by performing a filtering operation on the received signal, the filtering operation including dividing the received signal into a plurality of stages and providing a plurality of outputs, each stage providing a separate response as an output of the filtering operation. Independent claim 20 also recites capturing a waveform of a signal having the modified channel response. For at least similar reasons as set forth above, Shimoda does not teach or suggest all the features of independent claim 20.

The Office Action rejects claims 9, 10, 19, 29 and 30 over Bowers. Each of independent claims 9, 19 and 29 has been rewritten back into dependent form. These dependant claims define patentable subject matter at least because they depend from their corresponding independent claims. Additionally, claims 10 and 30 depend from claim 1 and 20, respectively.

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Thus, the rejection based only on Bowers appears to be incorrect since base claims 1 and 20 are rejected based on Shimoda. Further, Shimoda and Bowers, either alone or in combination do not teach or suggest the features of each of dependent claims 9, 10, 19, 29 and 30.

For at least the reasons set forth above, each of independent claims 1, 11 and 20 defines patentable subject matter. Each of the dependent claims depends from one of the independent claims and therefore defines patentable subject matter at least for this reason. In addition, the dependent claims recite features that further and independently distinguish over the applied references. For example, dependent claim 35 recites that each stage includes a voltage-to-current converter and a current multiplier. The applied references do not teach or suggest these features. Thus, dependent claim 35 defines patentable subject matter at least for this additional reason.

### **CONCLUSION**

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance of claims 1-7, 9-17, 19-20, 22-24 and 26-35 are earnestly solicited. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this,

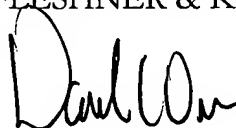
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concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,  
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